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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,753	12/20/2006	Katsunori Nagata	5364-0101PUS1	2943
2292 7590 11/09/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
MULLER, BRYAN R				
ART UNIT		PAPER NUMBER		
3727				
NOTIFICATION DATE		DELIVERY MODE		
11/09/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

# Office Action Summary

**Application No.**

10/588,753

**Applicant(s)**

NAGATA ET AL.

**Examiner**

BRYAN R. MULLER

**Art Unit**

3727

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 25-46 is/are pending in the application.
- 4a) Of the above claim(s) 33,34 and 40-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-32,35-39 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/23/2008, 9/6/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 33-34 and 40-45 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention groups II and III, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/10/2009.

### ***Specification***

2. The disclosure is objected to because of the following informalities: there are several references in the original application to particular claims and or the invention according to particular claims. However, all of the claims being referred to have been cancelled at this point. Therefore, it is suggested that the applicant remove all reference to any claim numbers in the specification, including the currently pending claims due to the fact that it is possible for any of the pending claims to also be cancelled or amended to include different limitations than currently pending.

Appropriate correction is required.

### ***Double Patenting***

3. Applicant is advised that should claim 31 be found allowable, claims 39 and 46 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing

one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

### ***Claim Objections***

4. Claims 31, 39 and 46 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Each of the claims only discloses an intended use for the apparatus, specifically how a workpiece to be cleaned may pass through the apparatus and attempts to define the orientation of the *gas*, which is not part of the apparatus, relative to an intended direction of movement for the workpiece. Thus, the claims do not actually provide any structure to the preceding claims.

5. Claim 28 is objected to because of the following informalities: the claim indicates that the receiving member of the discharge device is provided in opposition to said opening portion. However, as best understood by the Examiner and clearly shown in applicant's Fig. 3, the receiving member is actually adjacent to the opening portion and the claim will be treated as such for the sake of the current Office Action. It is suggested that the applicant amend the claim to more accurately read on the disclosed invention. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 25 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Both claims disclose the board with an edge portion as part of the cleaning device. However, as best understood by the Examiner, the board is the work piece to be cleaned by the device, not part of the cleaning device. Therefore, for the sake of the current Office Action, the Examiner will consider the reference to the board having an edge portion in the apparatus claims as an intended workpiece and it is suggested that the applicant amend the first two lines of claim 25 to "A cleaning device for cleaning a board having an edge portion, the cleaning device comprising:" and make a similar amendment to clarify claim 35.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 25, 26, 28, 29, 31, 32, 39 and 46 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiefer (3,986,223).

10. Kiefer clearly provides all of the structure set forth in claims 25, 26, 28, 29 and 32, wherein the cleaning device of Kiefer would be inherently capable of cleaning a board having an edge. With reference to claims 31, 39 and 46, the apparatus of Kiefer would further be inherently capable of allowing the edge of the board to enter the device, such that the edge of the board is cleaned by the brush (either 22 or 30 being considered to be the brush) and it would further be inherently capable for the direction of ingress of the board to be in a direction that is reverse to the direction of the ionized gas from the ion injectors.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiefer (3,986,223) as applied to claim 25 and in view of Ernst et al. (6, 543, 078).

13. Kiefer discloses the apparatus, as discussed supra, but fails to disclose that the apparatus may comprise a nozzle member to emit compressed air toward a discharge device. Ernst discloses a similar cleaning apparatus having an ion injecting device and a discharge device for removing ionized gas and dust from a member to be cleaned and Ernst further discloses that it is desirable to provide an air knife (known in the art to be a wide nozzle for directing compressed air) directed toward the member to be cleaned

and along the direction of airflow directed to the discharge device (air knives 28 and 38 in Fig. 10 are clearly shown as being directed toward alternate discharge devices 42 and 40, respectively) to clean ionized air and remove dust from any crevices or openings in the member to be cleaned, thus making the cleaning device more effective and efficient. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Kiefer with a similar air knife, directed towards the discharge device, as taught by Ernst, to improve cleaning of a member and to allow the apparatus of Kiefer to clean materials and/or objects that may have crevices or openings that may not be contacted by the brushes thereof.

14. Claims 30 and 35-37 rejected under 35 U.S.C. 103(a) as being unpatentable over Kiefer (3,986,223) as applied to claim 25 and in view of Sroka (3,915,737).

15. In reference to claims 30 and 35, Kiefer discloses the apparatus, as discussed supra, and teaches that the apparatus is provided with electrostatic cleaning capabilities, but fails to specifically disclose what material the brushes (30 or 22) are made from. Sroka discloses a similar cleaning apparatus for cleaning surfaces and comprises at least one brush in contact with the surface being cleaned and also has electrostatic cleaning capabilities, similar to Kiefer, and teaches that the brush preferably comprises non-conductive and conductive bristles, wherein the conductive bristles will be grounded to remove unwanted charges on the surface being cleaned. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide at least one, or all of the brushes of Kiefer with

electrically conductive bristles, as taught by Sroka, to remove unwanted charges on the surface being cleaned.

16. In reference to claims 36 and 37, Kiefer further discloses a brush positioning device (42) and that the brush includes hair (bristles on 30 or 28 of brush 22).

17. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiefer (3,986,223) in view of Sroka (3,915,737) as applied to claim 35 and further in view of Ernst et al. (6, 543, 078).

18. The combination of Kiefer and Sroka provides the apparatus, as discussed supra, but fails to disclose that the apparatus may comprise a nozzle member with an oblong orifice to emit compressed air toward a member to be cleaned. Ernst discloses a similar cleaning apparatus having an ion injecting device and a discharge device for removing ionized gas and dust from a member to be cleaned and Ernst further discloses that it is desirable to provide an air knife (known in the art to be a nozzle with an oblong orifice for directing compressed air) directed toward the member to be cleaned to clean ionized air and remove dust from any crevices or openings in the member to be cleaned, thus making the cleaning device more effective and efficient. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the apparatus of Kiefer with a similar air knife having an oblong orifice, directed towards the member to be cleaned, as taught by Ernst, to improve cleaning of a member and to allow the apparatus of Kiefer to clean materials



and/or objects that may have crevices or openings that may not be contacted by the brushes thereof.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN R. MULLER whose telephone number is (571)272-4489. The examiner can normally be reached on Monday thru Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica S. Carter can be reached on (571) 272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.